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IMPORTANCE OF PAST HISTORY IN CRITICALLY ILL PATIENT: A CASE OF IHD AND DIABETES RELATED COMORBIDITIES WITH PAST HISTORY OF OPERATED FOR PITUITARY ADENOMA.

General Medicine

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ABSTRACT

Pituitary adenoma (micro and macro) accounts for 15% of all intracranial tumors. Surgery is the mainstay modality for pituitary adenoma. Pituitary adenoma can be asymptomatic or present with features of prolactinoma, Cushing's disease, and acromegaly. Growth hormone (GH) secreting pituitary adenoma may lead to acromegaly in adults. Secondary Diabetes and Cardiovascular involvement in acromegaly is common and decide the prognosis. A 75 years old male presented to our medical ICU twice; once for ischemic heart disease and other time for sepsis due to diabetic foot infection. Patient had signs of acromegaly with past history of operation for Pituitary macroadenoma. In management of acromegaly, comorbidities play an important role. This patient had suffered due to diabetic complications and ischemic heart disease, and so was treated with medical management and was asked to come for follow up for surgical and multistep therapeutic strategy however did not report consequently.

KEYWORDS

Acromegaly, Pituitary macroadenoma, Diabetes, Ischemic heart disease

Introduction:

Pituitary adenoma (micro and macro) accounts for 15% of all intracranial tumors. They are benign, having long natural history. Surgery is the mainstay modality for pituitary adenoma. Pituitary adenoma can be asymptomatic or present with features of prolactinoma, Cushing's disease, and acromegaly. Growth hormone (GH) secreting pituitary adenoma may lead to acromegaly in adults. Secondary Diabetes and Cardiovascular involvement in acromegaly is common and decides the prognosis.

Here is a case who presented to ICU twice, once for ischemic heart disease and other time for sepsis due to diabetic foot infection. Patient had signs of acromegaly with past history of operation for Pituitary macroadenoma.

Case History:

A 75 years old male was admitted in Medical ICU on 20th March, 2017 with Biventricular failure, Hypertension, Diabetes, Acute Kidney Injury(AKI), Benign prostatic enlargement, Bladder stone and Urinary tract Infection. His ECG and Echocardiography suggestive of ischemic cardiomyopathy having EF of 35%. He had thick palm, acral enlargement, macroglossia and thickened coarse skin. **(Fig.1&2)** As patient had signs of acromegaly, on probing the past history, he revealed that in 2014, operation was done by neurosurgeon which cured his headache, vomiting and visual difficulty. On investigating further, patient was found to have peripheral constriction of visual field , random growth hormone levels of 9.97 (normal: < 10 mU/L), insulin-like growth factor-1 (IGF-1) (measured after good glycemic control) 342 ng/ml, (normal 107–310 ng/ml) , X ray skull **(Fig.3)** and Magnetic resonance imaging (MRI) was suggestive of pituitary adenoma which is suggestive of regrowth/remnant leading to acromegaly **(Fig.4)**.T3, T4, TSH, Cortisol, Prolactin was within normal limits. Patient had dyslipidemia and AKI. Patient was discharged after 10 days with basal-bolus insulin therapy and was asked to consult endocrinologist as well as neurosurgeon but did not comply. He was admitted again to ICU on 23rd May, 2017 with Sepsis due to Diabetic foot infection and uncontrolled diabetes.

Discussion:

Pituitary adenoma (micro and macro) accounts for 15% of all intracranial tumors. They are benign, having long natural history.[1] Surgery is the mainstay modality for pituitary adenoma. It was performed in this patient however he did not volunteer this history as his complaints were related to cardiovascular system in form of breathlessness and ghabharaman. Pituitary adenoma can be asymptomatic or present with features of prolactinoma, Cushing's disease, and acromegaly. Growth hormone (GH) secreting pituitary adenoma may lead to acromegaly in adults and it arises from somatotrophic cells. Three fourth of GH secreting adenomas are macro adenomas.[2] Prevelance of acromegaly reported in one study from Spain was 60 per million inhabitants, while average incidence (new diagnosed) was 3.1 per million people per year.[2]

Acromegaly is a term derived from Greek words, Aakras'meaning extremities and megas'meaning big. Our patient had typical features of enlargement of the hands and feet. Apart from progressive somatic disfigurement, it may lead to involvement of face in the form of coarse features, macroglossia, big nose and lips which was present in this patient.

Secondary Diabetes (type II) is common in acromegaly. In a Spanish epidemiological study (1970 to 1989) of 74 patients of acromegaly, 42 cases (57%) had Impaired glucose tolerance and diabetes (33% and 24%, respectively).[2] If "tell-tale" signs of acromegaly with past history was missed in this patient, he would be thought of primary diabetes. Again the main complaints were related to left ventricular dysfunction and ischemic heart disease in patient known to have diabetes and hypertension. This also will be thought of primary diabetes accompaniment. Apart from secondary diabetes, cardiovascular involvement in acromegaly is also common and will decide the prognosis.[3] In Spanish epidemiological study, hypertension was present n in 25.6% patients.[2]

He presented to us second time in ICU with diabetic foot leading to sepsis. Diabetic foot disease which was present in this patient is more common in acromegaly due to skeletal as well as soft tissue growth of foot than having only diabetes (without acromegaly) is difficult to opine. *Kanakapura G. et al.* published a case of acromegaly with a diabetic ulcer on the left foot having bony and soft tissue over growth.[4]

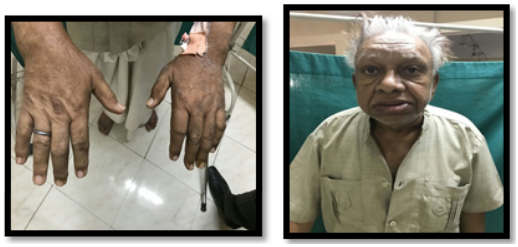
His growth hormone (GH) levels were on higher side of normal with increased levels of insulin-like growth factor-1 (IGF-1). GH action is mediated by IGF-1, which is produced by the liver.[5] In 2014, he was operated for pituitary adenoma. As IGF-1 was high and had features suggestive of acromegaly he was further investigated. Patient's X-ray Skull and MRI (2017) were suggestive of macro adenoma of the size of 19.4 X 16.6 millimeters, either a remnant or re growth /remnant. The serum IGF-1 level, which is related with integrated GH secretion is used for screening, diagnosis and monitoring acromegaly.[5] As IGF-1 was high in our patient, we suspected active adenoma. Systemic disorders, hepatic or renal failure, malnutrition and diabetes mellitus may lead to falsely decreased IGF-1 levels.[6] In this patient, IGF-1 was measured when his diabetes was under good control.

Conclusion:

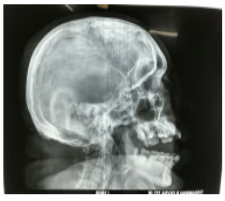
In management of acromegaly, comorbidities play an important role, as quality of life may suffer. As this patient had suffered due to diabetic complications and ischemic heart disease, his main concern pertained to it. Patient was treated with medical management and was asked to come for follow up for surgical and multistep therapeutic strategy however did not report consequently.

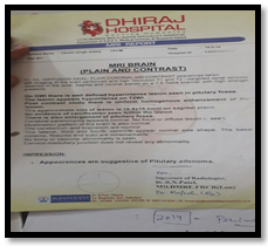
Systemic illnesses and co-morbities may mask Acromegaly. Patient may be critically ill due to associated co morbidities and in such patients past history is important.

Figures



Figures 1 & 2





Figures 3 & 4

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